

REMARKS/ARGUMENTS

In response to the Office Action mailed June 27, 2005 and the RCE filed December 27, 2005, Applicants further amend their application. In this Amendment claims 9 and 10 are newly cancelled so that claims 1-12 are no longer pending. New claims 13-31 are submitted and are now the claims pending.

New claims 13, 19, and 26 are each independent claims. This disclosure in the patent application provides support for all of the newly submitted claims. Claims 13-25 are clearly supported by the description of the patent application with regard to Figures 2A and 2B. Figure 1, showing an array of dummy conductors and their arrangement with respect to second wiring conductors M2, supports, with Figures 2A and Figures 2B, as well as the related description in the patent application, claims 26-31.

Previously pending claims were rejected as anticipated by Dirahoui et al. (U.S. Patent 6,492,259, hereinafter Dirahoui) and Hagihara as represented by U.S. Patent 6,570,243). Neither of these publications, if prior art, can anticipate any claim now pending.

With regard to each of the three independent claims, it is apparent that Dirahoui never describes a third dielectric film arranged as specified in the newly pending claims. Further, at least as shown in the cross-section views in Dirahoui, the dummy conductor never contacts the first dielectric film. Instead the dummy conductor 24 directly contacts a wiring line 18.

It is impossible to correlate the dielectric films of Hagihara with the dielectric films of the invention as defined by the claims now presented for examination. Further, there is no dummy conductor in Hagihara.

When the important objective of the invention and its achievement are understood, it is apparent that the invention, as defined by the claims submitted here, is clearly patentable over the prior art. The objective of the invention is to inhibit resist poisoning that can occur in a wiring structure using a low-k, i.e., dielectric constant, film. In order to form a via in such a film, a chemically amplified resist is employed in a lithography process. As well known to those of skill in the art, upon exposure, these chemically amplified resists produce acidic materials. If these acidic materials are inappropriately

exposed to an alkaline material, such as an amine, neutralization can occur which produces defects in the resist. These defects are referred to as resist poisoning.

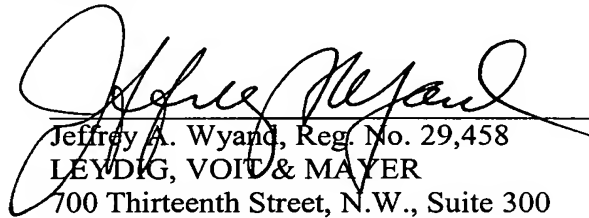
In a wiring structure including a low-k film, the insulating film may include nitrogen. Typically, SiN films are employed as etch-stopping films in the course of forming vias using the chemically amplified resist as an etching mask. The plasma may also contain nitrogen atoms so that an amine may be produced in the plasma etching process, resulting in resist poisoning.

In the invention, particularly in the structure defined by new claims 26-31, dummy vias filled with a metal are arranged around a wiring conductor that provides a contact to an electrical conductor that is buried deeper in the structure. The dummy vias according to the invention aid in consuming the amine that may be formed in plasma etching thereby avoiding resist poisoning.

Neither Dirahoui nor Hagihara discuss the structure disclosed nor the issue resolved in the invention. Therefore, neither Dirahoui nor Hagihara can anticipate any claim now submitted and cannot even suggest the invention as defined by the new claims.

Reconsideration and allowance of claims 13-31 are earnestly solicited.

Respectfully submitted,


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